99B-105

4.5 PSP Cover Sheet (Attach to the front of each proposal)

Proposal Title: Abandoned Mine Inventory, CALFED's Targeted Watersheds
Applicant Name: Department of Conservation/Office of Mine Reclamation/Abandoned Mine Land Unit
Mailing Address: 801 K Street, MS 09-06, Sacramento, CA 95814
Telephone: (916) 323-8564
Fax: (916) 322-4862
Email: gnewton@consrv.ca.gov

Amount of funding requested: $ 2,194,523 for 3 years

Indicate the Topic for which you are applying (check only one box):

- ☐ Fish Passage/Fish Screens
- ☒ Habitat Restoration
- ☐ Local Watershed Stewardship
- ☐ Water Quality
- ☐ Introduced Species
- ☐ Fish Management/Hatchery
- ☐ Environmental Education

Does the proposal address a specified Focused Action? _____ yes __X__ no

What county or counties is the project located in? Shasta, Plumas, Lassen, Butte, Sierra, Yuba, Nevada, Tuolumne, Mariposa, Madera, Fresno, Tulare, Kern, Placer, Tehama, Alpine, El Dorado, Amador, Calaveras

Indicate the geographic area of your proposal (check only one box):

- ☐ Sacramento River Mainstem
- ☐ Sacramento Trib: _____
- ☐ San Joaquin River Mainstem
- ☐ San Joaquin Trib: _____
- ☐ Delta:
- ☐ East Side Trib: _____
- ☐ Suisun Marsh and Bay
- ☐ North Bay/South Bay: _____
- ☒ Landscape (entire Bay-Delta watershed)
- ☐ Other: _____

Indicate the primary species which the proposal addresses (check all that apply):

- ☒ San Joaquin and East-side Delta tributaries fall-run chinook salmon
- ☒ Winter-run chinook salmon
- ☐ Late-fall run chinook salmon
- ☐ Delta smelt
- ☒ Spittail
- ☒ Green Sturgeon
- ☐ Migratory birds
- ☐ Other: _____
- ☒ Spring-run chinook salmon
- ☒ Fall-run chinook salmon
- ☐ Longfin smelt
- ☒ Steelhead Trout
- ☒ Striped Bass
- ☒ All chinook species
- ☒ All anadromous salmonids

Specify the ERP strategic objective and target (s) that the project addresses. Include page numbers from January 1999 version of ERP Volume I and II:

1) Reducing the impacts of contaminants, ERPP Vol. 1, Page 503
2) Using watershed management for the reduction of contaminants, ERPP Vol 1, Page 504
3) Targets included all salmonids, migrating birds, and other aquatic organisms

I-013722

Indicate the type of applicant (check only one box):

☒State agency
☐Public/Non-profit joint venture
☐Local government/district
☐University
☐Federal agency
☐Non-profit
☐Private party
☐Other:

Indicate the type of project (check only one box):

☐Planning
☐Monitoring
☐Implementation
☐Education
☒Research

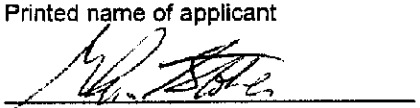
By signing below, the applicant declares the following:

1.) The truthfulness of all representations in their proposal;

2.) The individual signing the form is entitled to submit the application on behalf of the applicant (if the applicant is an entity or organization); and

3.) The person submitting the application has read and understood the conflict of interest and confidentiality discussion in the PSP (Section 2.4) and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant, to the extent as provided in the Section.

Glenn Stober
Printed name of applicant



Signature of applicant

ABANDONED MINE INVENTORY, CALFED'S TARGETED WATERSHEDS

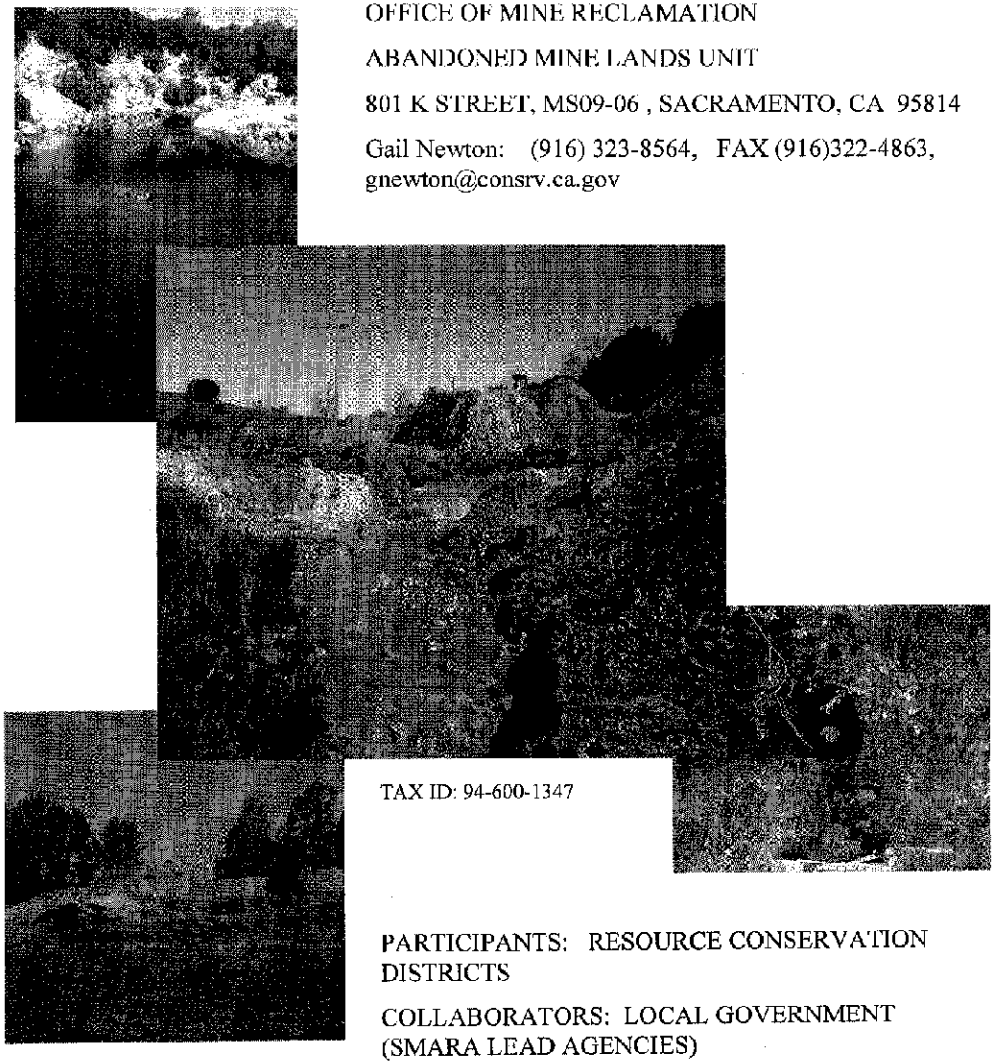
DEPARTMENT OF CONSERVATION

OFFICE OF MINE RECLAMATION

ABANDONED MINE LANDS UNIT

801 K STREET, MS09-06 , SACRAMENTO, CA 95814

Gail Newton: (916) 323-8564, FAX (916)322-4863,
gnewton@consrv.ca.gov



TAX ID: 94-600-1347

PARTICIPANTS: RESOURCE CONSERVATION DISTRICTS

COLLABORATORS: LOCAL GOVERNMENT (SMARA LEAD AGENCIES)

APRIL 14, 1999

I -013724

I-013724

EXECUTIVE SUMMARY

PROJECT DESCRIPTION:

The Department of Conservation's (DOC's), Office of Mine Reclamation's (OMR's) Abandoned Mine Lands Unit (AMLU) has statewide inventory responsibilities for abandoned mines. This is a new program created in fiscal year 1997/1998, with 3.5 person-years. The funding is scheduled to decline; in fiscal year 2000/2001, AMLU will be funded for only 2.5 person-years. With the estimated 30,000 abandoned mines in this state, and the lack of reliable information on these sites, it will be quite a number of years before the statewide project is completed to a level that will allow for full and accurate watershed analyses. **This proposal would fund abandoned mine inventories in the watersheds that feed the Bay-Delta and are known to have a large quantity of abandoned mines.** The products of this proposal will be a database, linked to a GIS, that details each site and provides a ranking system.

This proposal is limited to the Ecological Management Zones that were identified by spatial analyses as posing the greatest impact to the Bay-Delta ecosystems: North Sacramento Valley, Feather River/Sutter Basin, American River Basin, Eastside Delta Tributaries, and East San Joaquin. (The Yolo Basin is being addressed under a separate designated action.)

OBJECTIVES AND COMPATIBILITY:

This proposal is consistent with the CALFED ERP objectives and the Strategic Plan for Ecosystem Restoration (SP for ER), and does not prejudice the ultimate decision on the CALFED Long-term Program. Our proposed project will provide CALFED and it's stakeholders with the information necessary to design and prioritize abandoned mine restoration projects (SP for ER, 1999, Pg. 39) that will enhance and restore in-stream aquatic, shaded riverine, and seasonal wetland habitats in the impacted watersheds by eliminating future contamination of the water sites (ERPP, Vol. 1, 1999, Pg. 501) and restoring the creek. The total cost for this proposal, using state dollars is $2,194,523, and in federal dollars $2,103,332.

THIRD PARTY IMPACTS:

This project will collect data and provide information for future decisions, and as such will have no third party impacts. Third party impacts would happen as part of a future remediation phase.

QUALIFICATIONS:

The OMR staff that will be involved in the project include Gail Newton (Manager, AMLU) with 20 years experience in land restoration, with 10 of those years in mining; Stephen Reynolds (Associate Engineering Geologist) with over 20 years experience in hydrology and environmental restoration; Mike Tuffly with 10 years experience in environmental science, GIS, and GPS; Steve Newton-Reed (Aquatic Biologist) with 7 years mining reclamation experience and 2 years GIS experience. Resource Conservation District (RCD) personnel will be chosen based on qualifications.

MONITORING AND DATA EVALUATION:

Monitoring of workload progress will continue to happen through existing protocols, as part of our own strategic plan, including:

- The number of mine sites visited by OMR staff,
- The number of mine features inventoried, and
- The number of mine sites entered into the AMLU database from other data sources.

We would add to our workload tracking:

- The number of mine sites visited by OMR-trained RCD staff.
- The number of watersheds completed.

LOCAL SUPPORT/COORDINATION:

Prior to entering a watershed for inventory purposes, AMLU contacts the local lead agency(ies) (Attachment 5), puts out a press release through the local paper (which includes the toll-free number 1-877-OLD MINE), meets with the Board of Supervisors, and holds a townhall meeting (if requested). These procedures help to inform the public of our presence and mission and to provide a means by which the public can participate. Access to private land is secured via Public Resources Code Division 2, Chapter 2, Section 2208.

At the local level, AMLU has worked with Yolo County Planning Department, Shasta County Planning Department, and Placer County Environmental Health. At the federal level, we have worked with Bureau of Land Management, (Memorandum of Understanding in process), US Forest Service (Contract in place; Memorandum of Understanding in process), and National Park Service (Cooperative Agreement in place September 1998).

In addition, the activities of the AMLU, are guided by the Abandoned Mine Land Task Force, which comprises many state and federal agencies (see Table 6) that deal with abandoned mine lands (AML) issues. The exisiting protocols and data used for the analyses are those that have been agreed upon by these agencies.

1.0 PROJECT DESCRIPTION

1.1 PROPOSED SCOPE OF WORK

Funding of this proposal will allow for enhanced and accelerated AML inventories in CALFED's targeted watersheds (Attachment 1). This additional workload will be accomplished by augmenting AMLU staff and by providing grants to Resource Conservation Districts (RCDs), who will perform the tasks under AMLU direction. Remediation will not be funded by this grant. Rather, funding of this project will position CALFED for future remediation of AML sites, once the liability question is resolved. Currently in California, abandoned mine restoration occurs on a site by site basis, largely under US EPA Emergency Response actions. A better method for addressing the issue in this state would be to follow the example of other states impacted by abandoned hardrock mines (e.g., Colorado, Montana). These states inventoried and prioritized AML sites on a watershed by watershed basis. This is the approach that DOC's AMLU has currently implemented for the state.

1.1.2 BACKGROUND

AMLU is a new program funded in the OMR in fiscal year 1997/1998. This program is charged with inventorying the state's historic and inactive mines, in order to determine those that impact public and environmental health and safety. There are an estimated 30,000 abandoned mines in California; however, location data are inaccurate and characterization data are scant. It is estimated that only 15% of the abandoned mine locations in existing databases are accurate enough for watershed analyses or for field location. While many agencies have data on abandoned mine sites under their jurisdiction, there is no clear statewide picture of how many sites there are, and there are only limited assessments of the potential for human or environmental harm from these sites. Without such an overall picture, it is difficult to develop an understanding of the scope of the AML problem statewide, or the method to best utilize funds for solving this widespread problem. Solving the abandoned mine problem requires prioritizing the most important sites on a watershed basis and then securing those sites for cleanup and restoration

1.1.3 PROJECT APPROACH

The AMLU guiding principals are as follows:

- Leverage resources by integrating existing state, federal, and local inventories of abandoned mine sites, rather than try to create new inventories from scratch.
- Focus resources for future inventory work on identifying the worst areas and sites first, and on areas that pose the greatest threat to public and environmental health and safety.
- Maintain an adaptive management approach to the field prioritization scheme, e.g., the workload flow has been further divided into the CalWater Watersheds listed in Table 1.
- Provide a flexible, GIS-based, watershed method for a clean-up prioritization scheme.
- Provide for public participation on planning efforts for inventories and public access to inventory data.

Table 1 presents numbers from the MAS/MILS database for metal mines and should be considered only an estimate. Since the major aim of this CALFED grant is ecosystem restoration, we have targeted only those types of mines that negatively impact aquatic and riverine ecosystems. Typically, metal mines impact these ecosystems by discharging low pH water (acid rock drainage), laden with heavy metals, into the system. A sample of the "Producing" mines is depicted in Attachment 2. The number of mine sites in the targeted watersheds that may be impacting water quality is likely between 5,178 and 6,453.

Table 1: Estimated Number of Metal Mines in Targeted Watersheds*

Watershed	% Complete	Copper		Gold/Silver		Other Metal		TOTAL	
		All	Prod	All	Prod	All	Prod	All	Prod
Clear Ck/Spring Ck	50%	25	22	213	170	2	1	240	193
Yuba River	0%	20	15	992	735	52	32	1064	782
Bear River	50%	24	15	201	186	40	27	265	228
Feather River	0%	40	36	657	609	94	70	791	715
American River	0%	24	16	1089	1064	138	121	1251	1201
Cosumnes River	0%	15	13	386	313	32	21	433	347
Mokelumne River	0%	12	3	433	285	33	23	478	311
Calaveras River	0%	5	5	398	392	25	18	428	415
Stanislaus River	0%	13	13	345	298	64	20	422	331
Tuolumne River	0%	11	4	324	234	36	20	371	258
Merced River	0%	13	6	368	217	35	18	416	241
Fresno River	0%	0	0	75	26	18	10	93	36
Kern River	0%	4	3	103	59	94	58	201	120
GRAND TOTALS		206	151	5584	4588	663	439	6453	5178

*Values from the USGS (BOM) MAS/MILS database. %Complete=efforts in watershed by AMLU to date; All=all records in database for which there is likely to have been earthwork; Prod=all records in database were there is some indication of historical production or where the production status is unknown.

1.1.4 TASKS

Where possible, we rely upon existing databases to optimize time in the field (see Section 4.3, Table 5), and targe areas where data are lacking, inadequate, or inaccurate. Based on the level of information we have collected during watershed work this last year, we estimate that using our combined approach under this proposal will take 24 person-years to complete the workload listed in Table 1. Over the 3-year proposal period, AMLU will provide 9 person-years (including some project management), CALFED will fund 7 additional person-years in AMLU, and CALFED will fund 8 additional person-years through the AMLU/RCD grants.

The general workflow of the unit is as follows:

- Conduct literature, map, and aerial photo research. Compile data first on a site by site basis, followed by watershed basis.
- Key entry and integration of existing paper and digital databases into AMLU database; augment data with historical research results.
- Conduct field inventory of targeted mine sites (based upon GIS analysis, where mine data is inadequate for ranking). Targeted sites fit into one or more of the following categories: historical record of production, significant aerial photo signature, location on USGS topograhic map, or state, federal, and local agencies priority site.
- Post-field data processing of GPS locations, digital photos, and site data. Includes inputting data into GIS, DBS (sample entry screens in Attachment 3), with QA/QC procedures.
- Conduct spatial analyses on watershed and submit final watershed report (paper and digital products—i.e., deliverables).

For sites requiring a field visit, standard sampling procedures are generally as:

- Locate the site on USGS topo and on aerial photo; review available site data. Determine what type, if any, processing occurred on site.
- While on site, use GPS to locate mine features (i.e., points, lines, or polygons) and annotate those features as to type (e.g., shaft, adit, waste pile, discharge, spring) and condition (e.g., stable, eroding, collapsed, flowing).
- Take environmental measurements on wastes and tailings (paste pH and EC), and from any hydrological features (pH, EC, Redox, and temperature).

- If a creek flows through the site, take environmental measurements up-gradient and down-gradient from the site.
- If literature evidence or site conditions indicate that tailings, waste, or site drainage may include arsenic, mercury, copper, nickel, lead, zinc, or chrome, then a representative "grab" sample will be taken for laboratory analysis. (These grab samples will not yield quantitative results and will only be used to indicate where further, intensive sampling will be required in the future.)
- Digitally photograph main features of the site.

1.1.5 Deliverables

For each watershed that is completed under this grant, the deliverable will be a document summarizing the results of the spatial analyses within that watershed, which can be used for prioritization of CALFED funding decisions for remediation. Associated information will include data such as the location of all mine sites and mine features entered in the database, and the location of those features that could impact water quality and aquatic and riparian habitat. Spatial products will include maps of the analyses (such as presented in Attachment 4). The database for the watershed (in MS Access), the GIS layer (in ArcView), and attached photos, will be provided to CALFED on a CD-ROM(s).

1.1.6 Phases

There are thirteen watersheds (phases) listed in Table1. Within each watershed, the tasks detailed in Section 1.1.4 will be completed. CALFED may choose to fund this project on a watershed by watershed basis; however, all tasks within a watershed (phase) are linked.

1.1.7 Schedule

The Schedule for the project (three federal fiscal years) is provided in Section 6.2, Table 9.

1.2 LOCATION OF THE PROJECT

The location of the project proposed under this grant includes those tributaries to either the Sacramento or San Joaquin Rivers whose water quality may be impacted by sediment or contaminants discharged from AML sites. From preliminary spatial analyses completed by AMLU, using the existing (though incomplete and inaccurate) mine data, the following Ecological Management Zones fit these criteria. The boundaries of the proposed project(s) are depicted in Attachment 1 and are generally as follows:

Table 2: Geographical Scope of Project*

ECOLOGICAL MANAGEMENT ZONE	RIVER/CREEK	COUNTY
North Sacramento Valley	Spring Creek, Clear Creek	Shasta
Feather River/Sutter Basin	Feather River, Yuba River, Bear River, Honcut Creek, Dry Creek	Plumas, Lassen, Butte, Sierra, Yuba, Nevada, Placer, Tehama
American River Basin	American River, Coon Creek, Auburn Riavine	Alpine, Placer, El Dorado, Amador
Eastside Delta Tributaries	Cosumnes River, Mokelumne River, Calaveras River	Alpine, Amador, Calaveras, El Dorado
East San Joaquin	Stanislaus River, Tuolumne River, and Merced River	Calaveras, Tuolumne, Mariposa, Madera
San Joaquin River	Fresno River and Kern River	Mariposa, Madera, Fresno, Tulare, Kern

*Note that the above table does not include the Yolo Basin Ecological Zone, because a separate $3.8 million CALFED proposal will be addressing the abandoned mines in that area (Cache Creek).

2.0 ECOLOGICAL BENEFITS

2.1 ECOLOGICAL OBJECTIVES

Low pH, metal-laden water has directly impacted the riparian zone vegetation, decreased biodiversity, and contaminated in-stream sediments and organisims. Our proposed project will provide CALFED and it's stakeholders with the imformation necessary to design abandoned mine restoration projects that will enhance and restore in-stream aquatic, shaded riverine, and seasonal wetland habitats in the impacted watersheds by eliminating future contamination of the water and restoring the creek. These watersehds support riparian-associated wildlife, such as red and yellow legged-frogs, western pond turtle, and migratory birds, all of which will benefit by this project. This project will meet the goals of the ERPP for Habitat Restoration and of Water Quality (Vol.1, Pg. 501-504) and specifically addresses Goal 6 in Table 5-1 of the Strateic Plan for Ecosystem Restoration.

Our objective is to determine which abandoned mined lands are contributing to the contamination of Bay-Delta Watersheds, and to provide a priority list for their remediation/restoration. Abandoned mined lands are a significant source of contamination for the Bay-Delta Watershed. Restoration of these sites should be accomplished based upon standard criteria. These standard criteria shall be used to provide a ranking with targets. Hypothesis: "How well does a standard ranking system work for setting statewide priorities for AML restoration?"

Specifically, this project will focus on improving riparian areas including instream aquatic habitats, shaded riverine aquatic habitats, and seasonal wetland and aquatic habitats. The project is expected to benefit a number of key and priority species, including the following: migratory birds, native anuran amphibians, non-native warmwater gamefish, native resident fish species, riparian-associated native fish species, and downstream anadromous fisheries. The stressors addressed by this project include metal-laden, low pH discharges; sediment; decreased water quality for all users; and loss of adjacent aquatic, wetlands and riparian habitat values.

2.1.1 Comparison of Approach

During the preparation of a Feasibility Study Report evaluating AML inventory strategies, four approaches were evaluated:

Table 3: Comparison of Approach

APPROACH	RESULT
1. Field Inventory of all sites	Extremely costly, but would produce the best data
2. Compilation of existing data without any field inventory	Unreliable data, unreliable rankings
3. Compilation of exisiting data with limited field inventories for accuracy assessments (estimated 700 sites)	Unreliable data, unreliable rankings
4. Compilation of existing data, with spatial analyses, and field inventories where data are inadequate for ranking or location	Less costly than #1, with more reliable data and rankings than #2 & #3, at moderate cost

This last approach (#4), the "combined" approach, was chosen as the most cost effective, i.e., most likely to yield reliable data and realistic rankings.

2.2 LINKAGES

This project specifically addresses the ERPP's objectives of Habitat Restoration and Water Quality, and actions relating to the reduction of inputs of sediment and contaminants and the restoration of aquatic,

wetland, and riparian habitats (ERPP, Vol.1 Pg 501-504; SP for ER Pg 38-39 and Table 5-1). AMLU is charged with inventorying the state's historic and inactive mines, and providing a report to the Governor's office by June 2000. Based upon current funding and the large number of mine sites within the state, it is estimated that the AMLU will be able to survey one-tenth of the mines within the time allotted. A statistical analysis of surveyed and imported data will be compiled into the report for the Governor, detailing the magnitude and scope of the problem in California. Recognizing that the inventory process would need to continue in perpetuity, after June 2000 the funding for the AMLU continues at the $250,000 level with 2.5 person-years. At this level of funding, it could take AMLU as much as 30 years to complete the inventory. Funding provided to AMLU by CALFED will allow for enhanced and accelerated inventories that meet both DOC's and CALFED's goals and priorities.

2.3 SYSTEM-WIDE BENEFITS

The short-term system-wide benefits of this project will be increased information for informed decision-making. The long-term system-wide benefits of this project will be the remediation of the mine sites that are contributing the most to the impaired water quality of a watershed. In this respect, the benefits largely relate to water quality, contaminants and sediments, and the demonstration of appropiate, ecosystem restoration techniques for abandoned mine remediation on a watershed basis.

2.4 COMPATIBILITY WITH NON-ECOSYSTEM OBJECTIVES

Determining the location and hazards of an AML site will not only meet the goals of the ERPP, but will also meet goals of water quality and watershed management. Water quality goals that will be met will include providing the information necessary to improve livestock watering, improve dissolved oxygen, reduce metals loading, and reduce sediment loading. There will be no third party impacts. This project will be for the purposes of information collection and analysis only. No AML remediation will take place under these grant monies.

3.0 TECHNICAL FEASIBILITY AND TIMING

The project, as proposed, is technically feasible. Over the last year, we have demonstrated the accuracy of the GPS units and the ability of the DBS and GIS to perform (refer again to Attachments 3 and 4). Through the state's BCP and FSR process, the most effective means for achieving the goals of the AML Task Force were evaluated (See Table 3), resulting in the existing program. Funding through a CALFED grant will allow accelerated and enhanced inventories on watersheds that are considered a high priority by CALFED.

At the start of the AML program, we evaluated the existing MAS/MILS database and the Minefile database, with the hope that these would be adequate for watershed analyses. Since Minefile was created from MAS/MILS, they both tend to suffer from the same deficiencies. We found that many sites were mis-located, often in excess of one mile, and that the production information was unreliable. These databases were created to detail mining information, not environmental information, and therefore do not contain information on ARD, discharging, physical hazards, etc. The combination of the poor locational information and the lack of environmental data have necessitated using USGS topographical symbols and aerial photos for locations and creating a new database for the environmental data. The other databases listed in Table 4 contain useful information but do not address all the AML sites.

4.0 MONITORING AND DATA COLLECTION METHODOLOGY

4.1 ECOLOGICAL OBJECTIVES

While it is generally accepted that abandoned mines are impacting water quality and the associated aquatic, wetland, and riparian habitats (ERPP, Vol. 1, Pg. 502), there is no accepted statewide priority list for expenditure of the limited reclamation funds for abandoned mines. Rather than treating these lands on a site-by-site basis, better results could be attained if these sites were treated at the watershed level. In other words, cleaning-up a dozen small to medium sites in a watershed may yield better results (in terms of water and habitat quality) than cleaning-up one large site, and may be more cost effective.

The California AML project is modeled after other state projects (e.g., Montana) with similar goals. The primary goal is quality AML information that can be used for decision-making. Therefore, the monitoring program will largely consist of workload monitoring. With the magnitude of the problem in California (i.e., 30,000 sites), the level of information that can be taken at an individual site is limited. We will not be doing quantitative mine waste, tailings, or water sampling. Rather, we provide a screening-level inventory of sites that includes qualitative sampling, thereby identifying the sites for further study, yet still allowing for a reliable ranking. For the larger sites, much of the qualitative and quantitative data already exists and is proposed to be incorporated into the statewide database.

4.2 MONITORING PARAMETERS AND DATA COLLECTION APPROACH

The data are entered into a MS Access DBS (to be converted to SQL Server in about 1.5 years) and are linked to an ArcView GIS system. Monitoring of workload progress will continue to happen through existing protocols, as part of our own strategic plan, including:

Table 6: Monitoring and Data Collection Information

Biological/Ecological Objectives: obtain the AML data that can be used to prioritize funding for remediation, resulting in decreased contamination of Bay-Delta water.			
Question to be Evaluated	**Monitoring Parameter(s) and Data Collection Approach**	**Data Evaluation Approach***	**Method**
1) Identify, locate, and inventory sites	field inventory	number of mine features in DBS originating from RCD or DOC source	DBS query
1) Identify, locate, and inventory sites	field inventory	number of mine features in DBS originating from RCD or DOC source	DBS query
3) Which sites are contributing to the contamination of the watershed, in order of magnitude	upload or manually enter data	number of watersheds completed	GIS query

*These numbers will be reported on a quarterly basis.

4.3 DATA EVALUATION APPROACH

At each location, the following measurements are taken in the waterbody up-gradient, at, and down gradient from mine site: EC, pH, Redox, and temperature. EC and pH measurements are also taken in a representative sample of each waste or tailings (if present). If the field measurements or the historical data indicate the presence of high levels of constituents of concern, "grab" samples of the waste/tailings are taken and sent to a lab. Measurements and samples are not randomly chosen and are not replicated, and are therefore, considered qualitative. However, we have found them to work well for coarse ranking

of sites. For those sites that have existing data on constituents of concern, or for which samples are analyzed as part of this grant, the information will be added to the DBS.

The following statewide databases or sources of information have been (or are being) evaluated as part of this program:

Table 5: Existing Data Sources*

Database	Owner	Records	DBS	GIS	Waste/ Water Data?	Localtional Accuracy
Minefile	DOC/DMG	27,000	dBase	No	No	Poor
Classification Rpts	DOC/DMG	20	Paper file	No	No	Moderate
MAS/MILS	USGS (BOM)	29,000	dBase	No	No	Poor
Mines of Concern	SWRCB	90	Paper file	No	Some	Poor
Calsites	DTSC	180	Old system	No	Some	Moderate
No name	USFS	Unknown (1000)	Paper files	No	Limited	Poor to moderate
No name	BLM	Unknown (1000s)	Paper files	No	Limited	Poor to moderate
No name	NPS	Unknown (1000s)	Paper files	No	Limited	Poor to moderate

* This information may take the form of formal site reports, case files, or existing AML inventories. The usefulness of the above databases varies widely for this level of inventory.

Once a watershed is inventoried, watershed analyses will be performed. The analyses will indicate which sites are contributing to the contamination of the watershed, the gross magnitude of the contamination, and, in very general terms, the costs for restoration of the sites. Peer review will occur via the Abandoned Mine Task Force, which oversees current AMLU activities. Current participation in the Task Force, which is chaired and staffed by DOC, includes:

Table 6: Peer Review

ATTENDEE	REPRESENTING
Barbara Coler, Jim Tjosvold	State Department of Toxic Substances Control
Stan Martinson, Rick Humphreys	State Water Resources Control Board
Bob Munro, Ben Licari	State Mining and Geology Board
Noah Tilghman	State Department of Parks and Recreation
Jenny Decker	State Department of Fish and Game
Richard Grabowski, Jim Hamilton	Bureau of Land Management
Janine Clayton, Marin Esparza	US Forest Service
Ray Zimny	US Army Corps of Engineers
Roger Ashley, Charlie Alpers	US Geological Service
Denise Jones	California Mining Association

5.0 LOCAL INVOLVEMENT

Prior to entering a watershed for inventory purposes, AMLU contacts the local lead agency(ies) (sample in Attachment 5), puts out a press release through the local paper (which includes the toll-free number 1-877-OLD MINE), meets with the Board of Supervisors, and holds a townhall meeting (if requested). These procedures help to inform the public of our presence and mission and to provide a means by which the public can participate. In addition, local knowledge is often the best resource for historic and inactive

mine information. Not only will the toll free number aid in collecting local knowledge, but it is the local knowledge we are trying to capture by using the RCDs for a portion of this inventory work.

To date at the local level, we have worked with Yolo County Planning Department, Shasta County Planning Department, Placer County Environmental Health. At the federal level, we have worked with Bureau of Land Management, (MOU in process), US Forest Service (Contract in place, MOU in process), and National Park Service (MOU 9/98). We do not (and will not) enter a watershed until the local lead agency has agreed to our scope of work and geographic area of field work.

In addition, the activities of the AMLU are guided by the Abandoned Mine Land Task Force (review Table 6), which comprises many state and federal agencies that deal with AML issues. The exisiting protocols and data used for the analyses are those that have been agreed upon by these agencies.

6.0 COST

6.1 BUDGET

The total cost to CALFED for these enhanced and accelerated AML inventories, the DBS, and the GIS layers and analyses is $2,194,523 in state dollars, and $2,103,332 in federal dollars (Table 7). The quaterly bugets are displayed in Table 8. These cost estimates are based on supplying grants to a few RCDs to complete the majority of the inventory work within their respective watersheds. DOC has an existing contractual relationship with the RCDs through a grant program administered by the Division of Land Resource Protection. This relationship will be used to facilitate funding of the RCDs through the CALFED grant. AMLU manager and staff time will be used to administer the grant and for training and coordination with RCD staff.

6.2 SCHEDULE

Table 9 displays the anticipated schedule for the completion of each watershed. The order in which the watersheds are completed is somewhat negotiable and will also be determined by the respective RCD.

Table 7: Total Calfed Budget

TASK	LABOR HOURS	DIRECT SALARY AND BENEFITS	SERVICE CONTRACTS	MATERIAL COSTS	OTHER DIRECT COSTS	OVERHEAD, STATE	TOTAL STATE COST	OVERHEAD, FEDERAL	TOTAL FEDERAL COST
Clear Creek/Spring Creek	668	$26,720.00	$0.00		$5,913.60	$5,221.38	$37,854.98	$7,214.40	$39,848.00
Yuba River	440	$17,600.00	$248,500.00		$1,800.00	$42,864.00	$310,764.00	$4,752.00	$272,652.00
Bear River	846	$33,840.00	$0.00		$7,022.40	$6,537.98	$47,400.38	$9,136.80	$49,999.20
Feather River	440	$17,600.00	$227,000.00		$2,500.00	$39,536.00	$286,636.00	$4,752.00	$251,852.00
American River	6668	$266,720.00	$0.00		$74,043.20	$54,522.11	$395,285.31	$72,014.40	$412,777.60
Consumnes River	2182	$87,280.00	$0.00		$21,436.80	$17,394.69	$126,111.49	$23,565.60	$132,282.40
Mokelumne River	1838	$73,520.00	$0.00		$19,219.20	$14,838.27	$107,577.47	$19,850.40	$112,589.60
Calaveras River	2354	$94,160.00	$0.00		$25,625.60	$19,165.70	$138,951.30	$25,423.20	$145,208.80
Stanislaus River	220	$8,800.00	$113,980.00		$1,800.00	$19,932.80	$144,512.80	$2,376.00	$126,956.00
Tuolumne River	1324	$52,960.00	$0.00		$12,689.60	$10,503.94	$76,153.54	$14,299.20	$79,948.80
Merced River	280	$11,200.00	$78,750.00		$1,800.00	$14,680.00	$106,430.00	$3,024.00	$94,774.00
Fresno River	156	$6,240.00	$13,180.00		$1,800.00	$3,395.20	$24,615.20	$1,684.80	$22,904.80
Kern River	160	$6,400.00	$40,430.00		$1,000.00	$7,652.80	$55,482.80	$1,728.00	$49,558.00
Equipment/Laboratory		$0.00	$110,000.00	$100,000.00		$33,600.00	$243,600.00	$0.00	$210,000.00
Project Management	1460	$80,300.00				$12,848.00	$93,148.00	$21,681.00	$101,981.00
Grand Total	19036	783340	$831,840.00	$100,000.00	$176,650.40	$302,692.86	**$2,194,523.26**	$211,501.80	**$2,103,332.20**

Table 8: Quarterly Budget (Federal)

TASK	QRTLY OCT-DEC99	QRTLY JAN-MAR00	QRTLY APR-JUN00	QRTLY JUL-SEP00	QRTLY OCT-DEC00	QRTLY JAN-MAR01	QRTLY APR-JUN01	QRTLY JUL-SEP01	QRTLY OCT-DEC01	QRTLY JAN-MAR02	QRTLY APR-JUN02
Clear Creek/Spring Creek	$39,848										
Yuba River					$90,884	$90,884	$90,884				
Bear River			$49,999								
Feather River							$100,000	$100,852	$51,000		
American River									$100,000	$212,778	$100,000
Consumnes River								$79,300	$52,982		
Mokelumne River					$62,590	$50,000					
Calaveras River						$80,209	$65,000				
Stanislaus River				$54,018	$72,938						
Tuolumne River				$28,200	$51,749						
Merced River				$44,774	$50,000						
Fresno River			$10,000	$12,905							
Kern River			$19,558	$30,000							
Equipment/Laboratory	$5,000	$55,000	$10,000	$55,000	$15,000	$10,000	$10,000	$20,000	$10,000	$10,000	$10,000
Project Management	$2,794	$5,588	$10,764	$16,764	$13,970	$9,779	$9,779	$9,779	$6,985	$6,985	$8,794
TOTALS	$47,642	$60,588	$100,321	$241,660	$357,131	$240,872	$275,663	$209,931	$220,967	$229,763	$118,794

Table 9: Schedule

TASK	1999 OCT-DEC	2000 JAN-MAR	2000 APR-JUN	2000 JUL-SEP	2000 OCT-DEC	2001 JAN-MAR	2001 APR-JUN	2001 JUL-SEP	2001 OCT-DEC	2002 JAN-MAR	2002 APR-JUN
Clear Creek/Spring Creek	X										
Yuba River					X	X	X				
Bear River			X								
Feather River							X	X	X		
American River									X	X	X
Consumnes River								X	X		
Mokelumne River					X	X					
Calaveras River						X	X				
Stanislaus River				X	X						
Tuolumne River				X	X						
Merced River				X	X						
Fresno River			X	X							
Kern River			X	X							

CALFED may choose to incrementally fund the proposed scope of work on a watershed by watershed basis. The equipment and training costs for the RCDs will be incurred whether all or only a portion of this proposal is funded. CALFED may also choose to have all the work done by AMLU, rather than a portion of it implemented at the RCD level. Costs will increase slightly if the RCDs are not used (largely due to increased travel and per diem for Sacramento staff).

7.0 COST SHARING

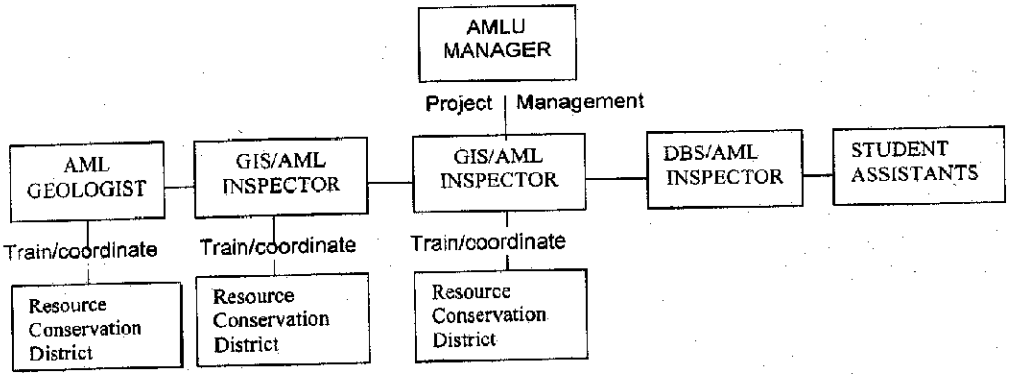
AMLU's budget in fiscal years 99/00, 00/01, and 01/02 will be used as a match for this grant. In addition, CALFED will benefit from major equipment purchases from prior years by AMLU, including 2 ArcInfo workstations ($36,000), 3 ArcView workstations ($18,000), 2 full-size inkjet plotters ($26,000), 2 digitizing tables ($20,000), GPS units (including real-time unit) ($25,000), digital cameras ($5,000), laser range-finders ($21,000), and water sampling meters ($6,000). This equipment ($157,000) will be used as an in-kind match in addition to the cash match detailed below:

Table 10: Cost Share

Year	Budget	% Match	Total Match Dollars
1999/2000	$420,000	50%	$210,000.00
2000/2001	$250,000	50%	$125,000.00
2001/2002	$250,000	50%	$125,000.00
ongoing	$250,000		

8.0 APPLICANT QUALIFICATIONS

8.1 ORGANIZATIONAL STRUCTURE



8.2 Department of Conservation, Office of Mine Reclamation, Abandoned Mine Lands Unit

DOC's AMLU was created via a BCP in fiscal year 1997/1998. The first 18 months of the program were spent on "start-up" activities, i.e., hiring of staff, procurement of equipment, and writing the required scoping documents and Feasibility Study Reports for a GIS project. In addition to the project manager and three professional staff, AMLU currently supports one limited-term position and three student positions. Professional staff qualifications follow:

Gail Newton (Environmental Program Manager I) has twenty years experience in restoration of California native habitats. She currently manages the Abandoned Mined Lands (AML) Unit of the Office of Mine Reclamation in the California Department of Conservation, which inventories AML sites and designs remediation strategies for abandoned mined lands, including SUPERFUND sites. She was previously the Revegetation Specialist for the state, with a state-wide responsibility for reviewing revegetation plans for all mined lands. She was principal of a consulting firm for ten years prior to entering state employment. Her

firm specialized in revegetation of native habitats in Northern California. She received her undergraduate degree in Botany from U.C. Santa Barbara and her graduate degree in Biology at Humboldt State University.

Stephen D. Reynolds (Associate Engineering Geologist) is a Registered Geologist, Certified Engineering Geologist and a Certified Hydrogeologist with 20 years professional experience specializing in the areas of hydrology and environmental restoration. Mr. Reynolds has worked for the California Department of Water Resources, the California EPA, the U.S. Army Corps of Engineers, and is currently employed by the California Department of Conservation in the Office of Mine Reclamation's Abandoned Mined Lands Unit. Mr. Reynolds received a Bachelor of Science Degree in Physical Geology in 1979.

Steve Newton-Reed (Resource Program Specialist I) is a graduate of U.C. Davis with a B.S. in Zoology, and post-baccalaureate coursework in field ecology. He has conducted aquatic sampling for the environmental consulting industry, and stream surveys for the U.S. Forest Service. Steve has been employed by the California Department of Conservation for the past 9 years, and has worked for both the Division of Mines and Geology and the Office of Mine Reclamation reviewing mine reclamation plans and providing technical assistance in reclamation plan preparation, water sampling, surveying; and hydrological, geophysical, and revegetation research at abandoned mines. For the past year he has worked for the Abandoned Mined Lands Unit conducting field inventories of abandoned mine sites utilizing GIS. and GPS at locations throughout the state.

Michael Tuffly (Resource Program Specialist I) has over ten years of experience in Geographic Information Systems (GIS), Remote Sensing, and Global Positioning Systems (GPS) coupled with a Masters Degree in Resource Management from Humboldt State University in California. Mr. Tuffly has specialized in modeling and assessing the accuracy of natural resources data using spatial tools. In the past ten years Mr. Tuffly has been involved with myriad projects consisting of: Fire modeling on the Middle Fork Smith River, Spotted Owl distribution and habitat assessment, Mountain Yellow-legged frogs habitat in the Eastern Sierra, and environmental modeling as it relates to Abandoned Mines and water quality.

Eric Miller (Environmental Specialist I) completed his BS in Natural Resource Planning in 1998 from Humboldt State University, with emphases in Geographic Information Systems (GIS), Remote Sensing, Global Positioning Systems (GPS), Database Design, and Soil Science.

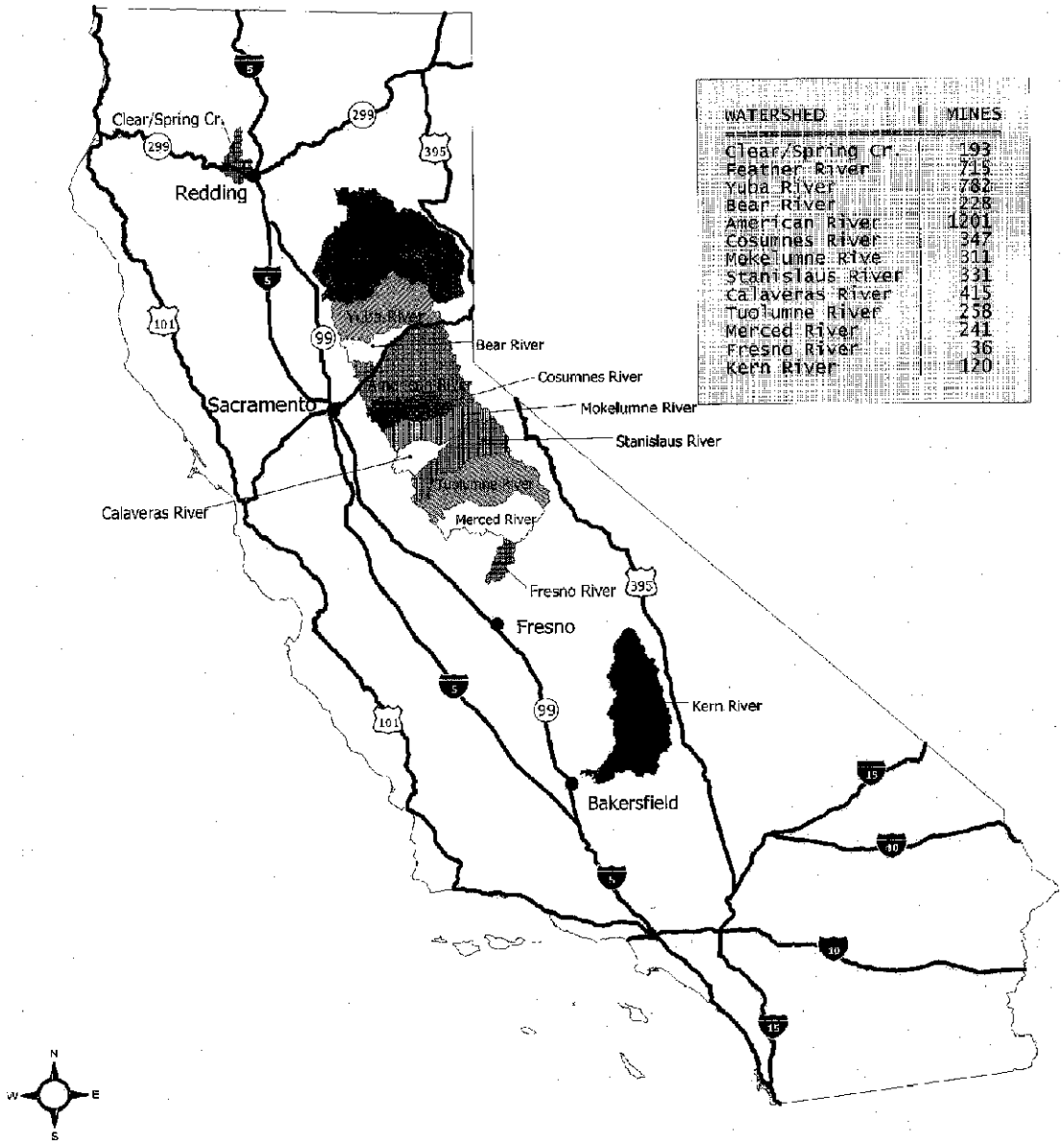
8.3 Resource Conservation Districts

A number of factors will determine whether AMLU or the RCDs provide the fieldwork for the AML inventory within a particular watershed:

- Cost efficiency of travel and per diem from Sacramento,
- Level of existing AML information in Sacramento for that watershed,
- CALFED's priorities for finishing a particular watershed,
- The presence of an active RCD in the watershed, and
- The level of expertise at the RCD.

For those watersheds that would best be done by the local RCD, a standard contractual agreement will be completed. AMLU's role will be to train, assist, and monitor the RCDs staff for completion of the tasks in a timely manner. As part of this grant, equipment necessary to complete the tasks will be loaned to the RCD for the duration of the contract.

Attachment 1: CALFED TARGET WATERSHEDS



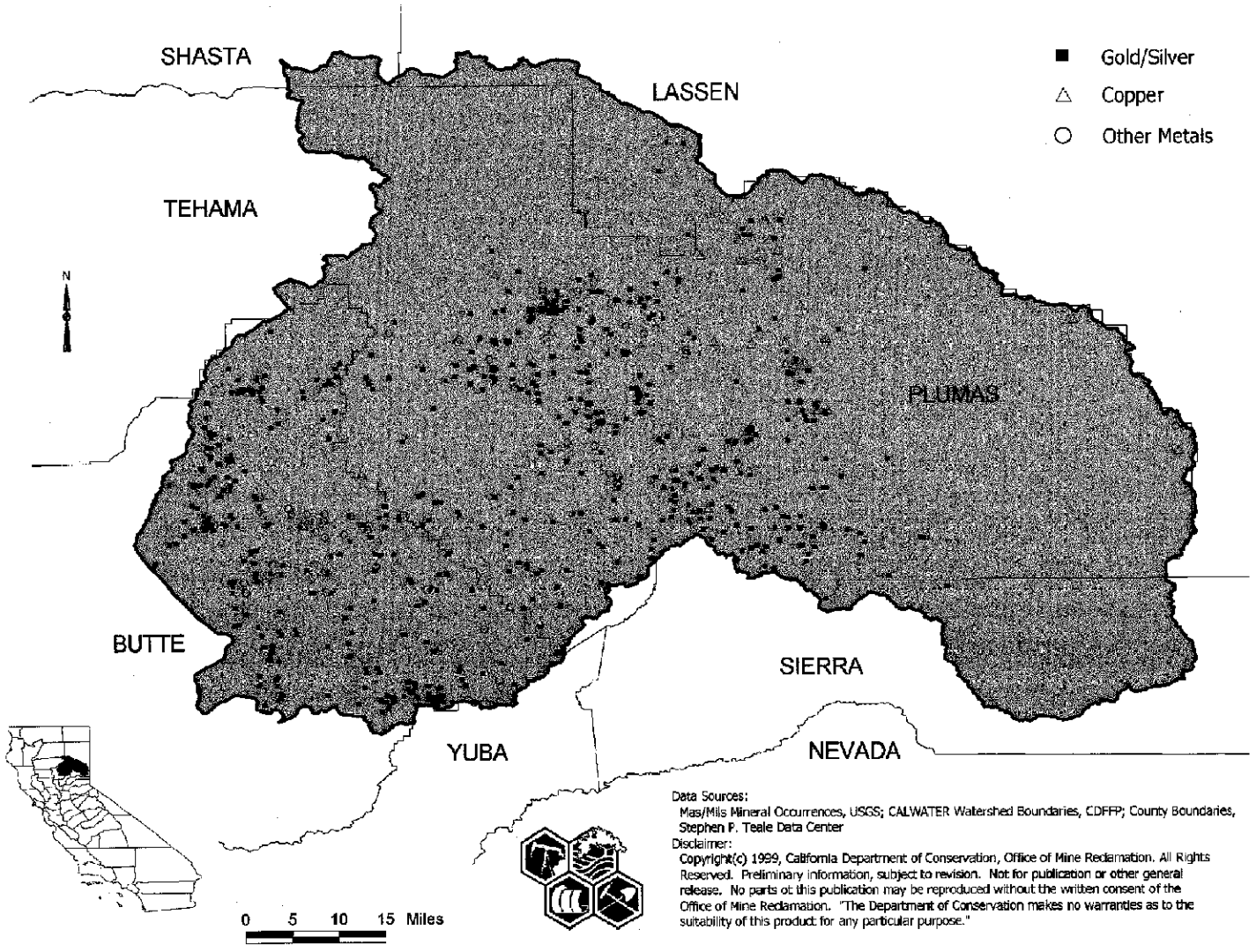
WATERSHED	MINES
Clear/Spring Cr.	193
Feather River	715
Yuba River	782
Bear River	228
American River	1201
Cosumnes River	347
Mokelumne Rive	511
Stanislaus River	331
Calaveras River	415
Tuolumne River	258
Merced River	241
Fresno River	36
Kern River	120

Data Sources:
Mas/Mills Mineral Occurrences, USGS; CALWATER Watershed Boundaries, CDFFP; Roads, Cities and County Boundaries, Stephen P. Teale Data Center

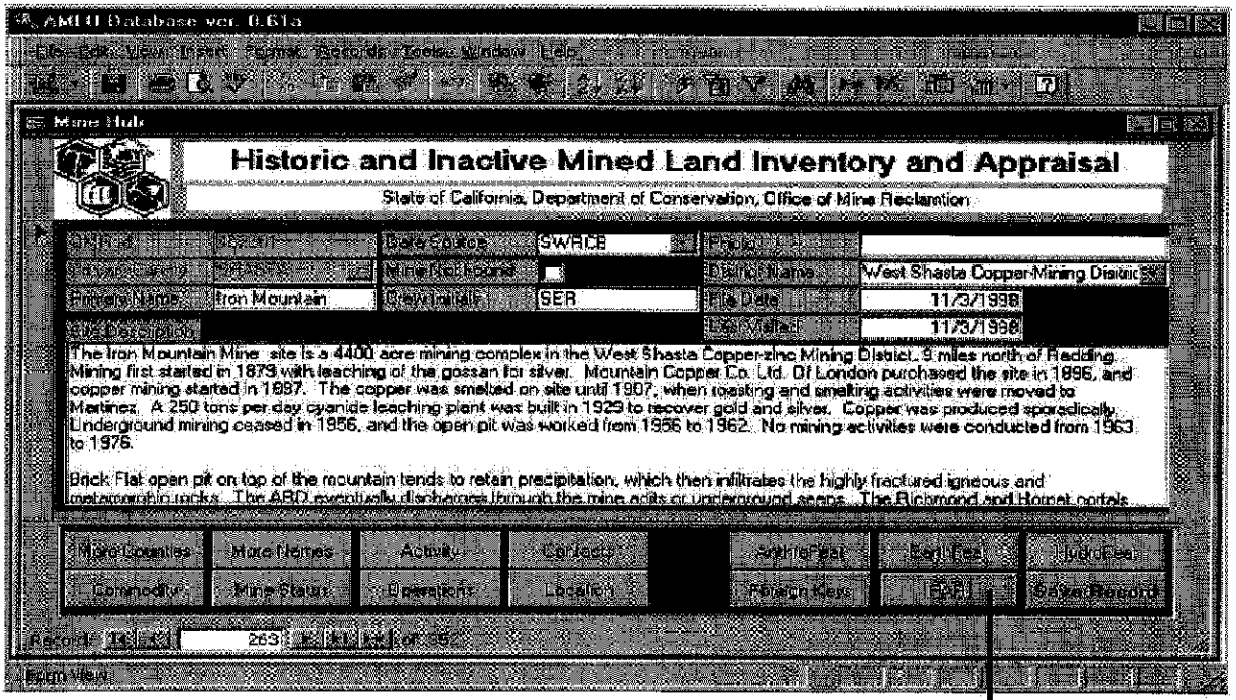
Disclaimer:

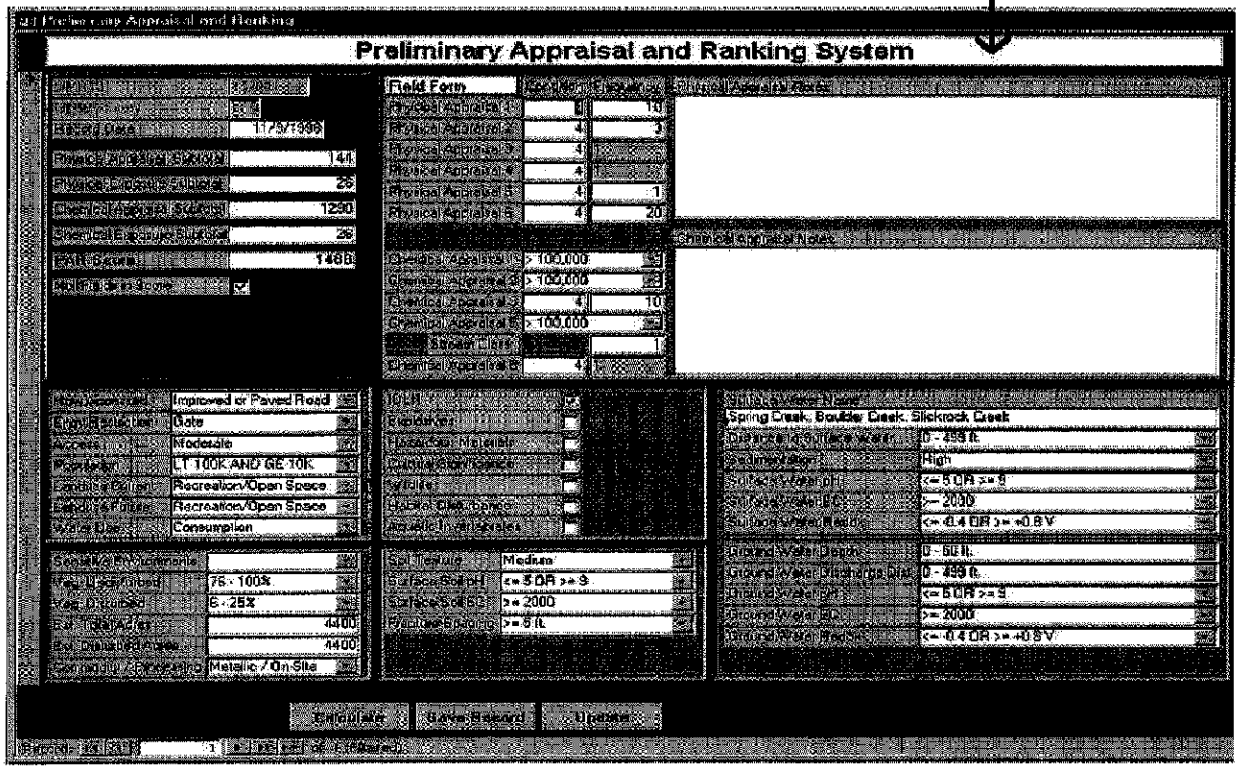
I-013739

Attachment 2: Metal Mines of the Feather River Watershed



Attachment 3: Database Forms





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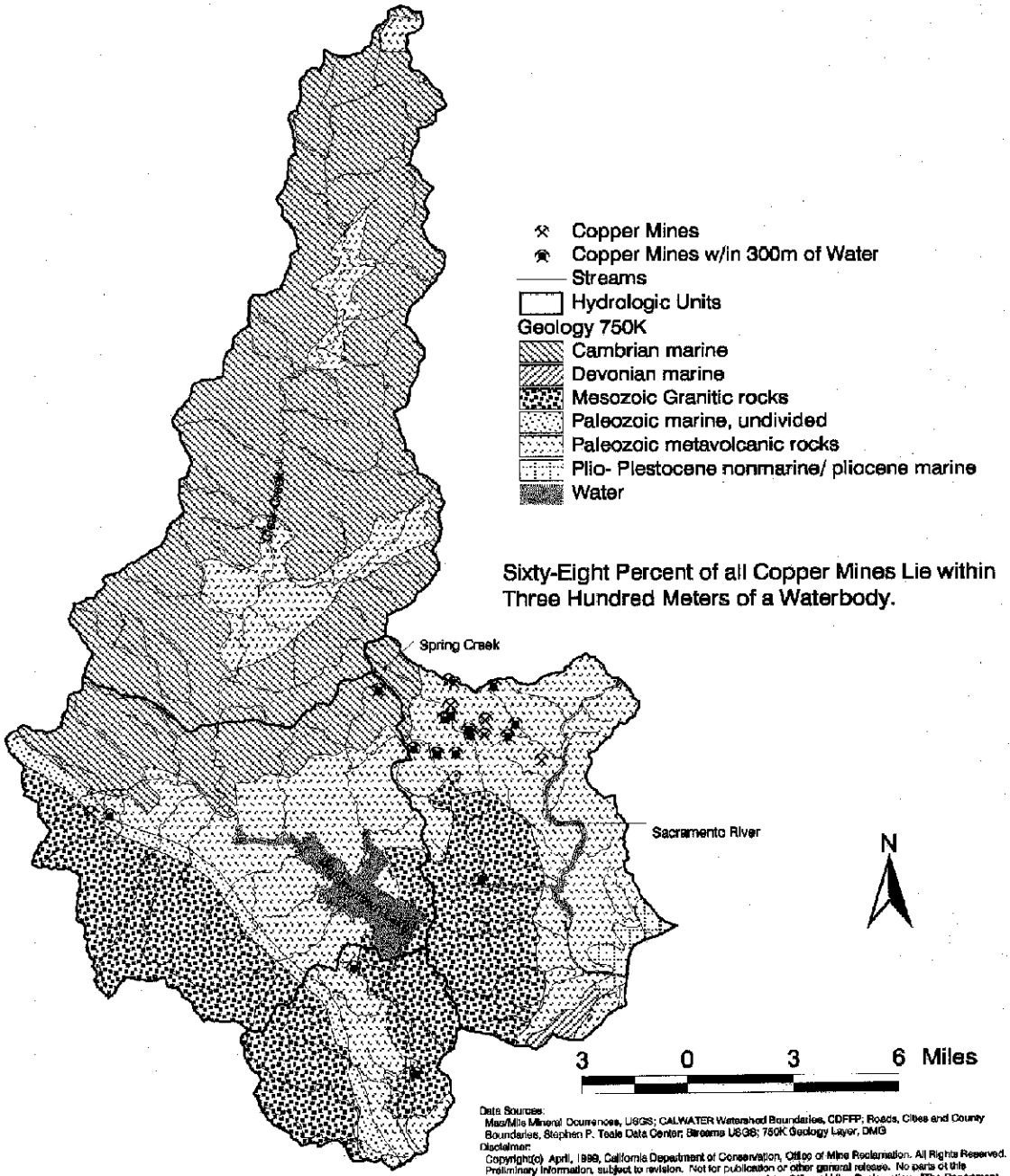
Attachment 4: Sample Spatial Analysis: Copper Mines Within 300m of Waterbodies, Clear Creek and Spring Creek Watersheds



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Attachment 5

STATE OF CALIFORNIA – THE RESOURCES AGENCY PETE WILSON, *Governor*

DEPARTMENT OF CONSERVATION
801 K Street, MS 09-06
Sacramento, CA 95814
TEL: (916) 323-9198
FAX: (916) 322-4862
E-MAIL: omrcal@consrv.ca.gov

October 26, 1998

Bill Walker
Shasta County Planning
701 Ocean Street, Room 102
Redding, CA 96001

Dear Bill:

As proposed at the last Abandoned Mine Task Force Meeting, our staff will be beginning a screening-level field inventory of abandoned mines in Shasta County commencing in December. The purpose of this inventory is to accurately locate mine sites (using GPS), document features (such as adits and structures) utilizing digital imagery, and conduct a preliminary (non-intrusive) evaluation of the conditions present at each site.

The general statement about the new Abandoned Mine Lands Unit is enclosed. For the talk to your Board, I plan to largely cover the contents of this enclosure and provide a few maps of mine data for your County.

Because of limited funding, staff and time constraints, only a fraction of the mines known to exist in Shasta County can be inventoried at this stage of the project. For this reason we are only able to field inventory a limited number of mines in selected sample areas (watersheds) for study. We propose to inventory a selected number of abandoned mines located within the Clear Creek Watershed. As part of the agreement, any data we gather will be given to you at the completion of the inventory work. Data will be in a Microsoft Access database, linked to ArcView GIS.

Please let me know if you need any more information on the program. I look forward to seeing you on November 10th. I can be reached at (916) 323-8564 or via email at gnewton@consrv.ca.gov.

Sincerely,

Gail A. Newton, Manager
Abandoned Mine Lands Unit

Enclosure

I –013743

I-013743

OMB Approval No. 0348-0043

APPLICATION FOR FEDERAL ASSISTANCE

2. DATE SUBMITTED	Applicant Identifier
April 14, 1999	
3. DATE RECEIVED BY STATE	State Applicant Identifier
4. DATE RECEIVED BY FEDERAL AGENCY	Federal Identifier

1. TYPE OF SUBMISSION

Application	*Preapplication*
☐ Construction	☐ Construction
☒ Non-Construction	☐ Non-Construction

5. APPLICANT INFORMATION

Legal Name: Department of Conservation

Organizational Unit: Office of Mine Reclamation

Address *(give city, county, state, and zip code)*:
Office of Mine Reclamation
Sacramento, Sacramento, CA 95814

Name and telephone number of person to be contacted on matters involving this application *(give area code)*
Technical: Gail Newton, (916) 323-8564
Budgetary: same.
Contractual: same,

6. EMPLOYER IDENTIFICATION NUMBER (EIN):
9 4 – 6 0 0 1 3 4 7

7. TYPE OF APPLICANT: *(enter appropriate letter in box)* A

A. State
B. County
C. Municipal
D. Township
E. Interstate
F. Intermunicipal
G. Special District
H. Independent School Dist.
I. State Controlled Institution of Higher Learning
J. Private University
K. Indian Tribe
L. Individual
M. Profit Organization
N. Other (Specify) _____

8. TYPE OF APPLICATION:

☒ New ☐ Continuation ☐ Revision

If Revision, enter appropriate letter(s) in box(es): ☐ ☐

A. Increase Award B. Decrease Award C. Increase Duration
D. Decrease Duration Other *(specify)*:

9. NAME OF FEDERAL AGENCY:

10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER:

TITLE: CALFED

11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT:

Abandoned Mine Inventory, CALFED's Targeted Watersheds

12. AREAS AFFECTED BY PROJECT *(cities, counties, states, etc.)*:

California

13. PROPOSED PROJECT:		**14. CONGRESSIONAL DISTRICTS OF:**	
Start Date	Ending Date	a. Applicant	b. Project
10/99	06/02	4	Statewide

15. ESTIMATED FUNDING:

a. Federal	$	2,103,322.00
b. Applicant	$	.00
c. State	$	617,000.00
d. Local	$	.00
e. Other	$	.00
f. Program Income	$	.00
g. TOTAL	$	2,720,322.00

16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?

a. YES. THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THESTATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON:

DATE _____

b. NO. ☐ PROGRAM IS NOT COVERED BY E.O. 12372
☐ OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW

17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT?

☐ Yes If "Yes," attach an explanation. ☒ No

18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT. THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED.

a. Typed Name of Authorized Representative	b. Title	c. Telephone number
Glenn Stober	Assistant Director	(916) 323-9198
d. Signature of Authorized Representative		e. Date Signed
		4-14-99

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Standard Form 424 (REV. 4-92)
Prescribed by OMB Circular A-102

I –013744

I-013744

OMB Approval No. 0348-0044

BUDGET INFORMATION - Non-Construction Programs

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. CALFED		$	$	$ $2,103,332	$	$2,103,332
2. AMLU	N/A				$617,000	$617,000
3.						$0
4.						$0
5. TOTALS		$0	$0	$2,103,332	$617,000	$2,720,332

SECTION B - BUDGET CATEGORIES

6. OBJECT CLASS CATEGORIES	GRANT PROGRAM, FUNCTION OR ACTIVITY (1) CALFED	(2) AMLU	(3)	(4)	Total (5)
a. Personnel	$ $588,977	$ $247,136	$	$	$836,113
b. Fringe Benefits	$194,363	$81,555			$275,918
c. Travel	$176,650	$27,955			$204,605
d. Equipment	$100,000	$157,000			$257,000
e. Supplies		$27,000			$27,000
f. Contractual	$831,840				$831,840
g. Construction					$0
h. Other		$12,906			$12,906
i. Total Direct Charges (sum of 6a-6h)	$1,891,830	$553,552			$2,445,382
j. Indirect Charges	$211,502	$63,448			$274,950
k. TOTALS (sum of 6i and 6j)	$2,103,332	$617,000			$2,720,332
7. PROGRAM INCOME	$0	$0	$0	$0	$0

Standard Form 424A (Rev. 4-92)

I-013745

I-013745

SECTION C - NON-FEDERAL RESOURCES

(a) Grant Program	(b) Applicant	(c) State	(d) Other sources	(e) TOTALS
8.	$0	$0	$0	$0
9. AMLU (CASH)		$460,000		$460,000
10. AMLU (IN-KIND)		$157,000		$157,000
11.				$0
12. **TOTALS** (sum of lines 8 and 11)	$0	$617,000	$0	$617,000

SECTION D - FORECASTED CASH NEEDS

	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. **Federal**	$450,211	$47,642	$60,588	$100,321	$241,660
14. **NonFederal**	$188,750	$52,500	$52,500	$52,500	$31,250
15. **TOTAL** (sum of lines 13 and 14)	$638,961	$100,142	$113,088	$152,821	$272,910

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT

(a) Grant Program	FUTURE FUNDING PERIODS (YEARS) (b) First	(c) Second	(d) Third	(e) Fourth
16. CALFED	$ $1,083,597	$ $569,524	$	$
17.				
18.				
19.				
20. **TOTALS** (sum of lines 16 - 19)	$1,083,597	$569,524	$0	$0

SECTION F - OTHER BUDGET INFORMATION

21. **Direct Charges:** $0

22. **Indirect Charges** $211,502 FED: provisional on personnel expenses only at 27%
$0 Total Indirect Expense (45% MTDC - Predetermined)

23. **Remarks**

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ASSURANCES—NON-CONSTRUCTION PROGRAMS

Note: Certain of these assurances may not be applicable to your project or program. If you have questions please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project costs) to ensure proper planning, management and completion of the project described in this application.

2. Will give the awarding agency, the Comptroller General of the United States, and if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.

3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.

4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.

5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§ 4728-4763) relating to prescribed standards for merit systems for programs funded under one of the nineteen statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).

6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§ 1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. § 794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§ 6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-2S5), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§ 523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. 290 dd-3 and 290 ee-3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. § 3601 et seq.), as amended, relating to non-discrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

7. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.

8. Will comply with the provisions of the Hatch Act (5 U.S.C. §§ 1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§ 276a to 276a7), the Copeland Act (40 U.S.C. § 276c and 18 U.S.C. §§ 874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§ 327-33.3), regarding labor standards for federally assisted construction subagreements.

10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more.

11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e)assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§ 1451 et seq.); (f) conformity of Federal actions to State (Clear Air) Implementation Plans under Section 176(c) of the Clear Air Act of 1955, as amended (42 U.S.C. § 7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended, (P.L. 93-523); and (h) protection of endangered species under the Endangered Species Act of 1973, as amended, (P.L. 93-205).

12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§ 1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.

13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. 469a-1 et seq.).

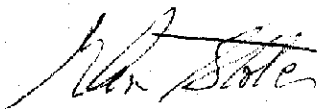
14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.

15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. 2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.

16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§ 4801 et seq.) which prohibits the use of lead based paint in construction or rehabilitation of residence structures.

17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act of 1984 or OMB Circular No. A-133, Audits of Institutions of Higher Learning and other Non-profit Institutions.

18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations and policies governing this program.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL	TITLE
	Assistant Director
APPLICANT ORGANIZATION	DATE SUBMITTED
Department of Conservation Office of Mine Reclamation	April 14, 1999

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